

Cognitive Style and Gender as Determinants of Academic Achievement in Social Studies

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Abstract

This paper investigated cognitive style and gender as determinants of academic achievement in social studies. Two null hypothesis were formulated. The ex-post fact design was used in the study, with 302 respondents selected from ten junior Secondary Schools in Ika North East and Ika South Local Government Areas of Delta State as sample. The cognitive style test with $r = 0.62$ ($L0.001$) to $r = 0.7$ ($L0.001$). A standardized achievement test in social studies was used to collect data. Pearson product moment was employed to establish the relationship. The study revealed that cognitive style and gender of students is closely related with performance due to interaction. It also revealed that there is no significant relationship between gender and academic achievement. Based on the findings, recommendations were made.

Keywords: Cognitive Style, Gender, Academic Achievement and Social Studies

Introduction

The emergence of Social Studies as a discipline was generally accepted as a response to the need to address certain social problems. Among such problems were the question of national unity, corruption, tribalism and nepotism. The introduction of the subject was also to address the urgent need to educate the child in the rudiments of his culture as well as a socio-political agent.

According to Udoh in Ukadike (2003) Social Studies emerged in Nigerian Educational System in a very simple and humble manner through the efforts and dedication of some teachers in Aiyetoro Comprehensive High School in 1963 under the auspices of the former Western Region Ministry of Education and the United States Agency for International Development. Onyesom (2021) noted that the Aiyetoro project was later given a national coverage with the assistance of Comparative Education Study and Adaptation Centre (CESAC). Udoh (2019) however argued that the development gained momentum especially after the introduction of the new national policy on education which generally is referred to as the 6-3-3-4 system.

According to him, the rapid development was due to two main factors. The first was the Universal Primary Education which was introduced in 1978, abolished the teaching of other social sciences e.g. Civic, geography, history, etc as separate

subjects to be taught in primary schools. Secondly, Social Studies was made a core subject for the JSS programme in the National Educational System.

Students cognitive style also can influence the extent to which the objectives of Social Studies can be achieved. Umeoduagu (1995) in agreement with Isyaku (2018) opined that cognitive style is the individual's distinctive pattern and technique of apprehending, storing and employing information. Thornell (2017) described Cognitive style as the way individuals think, perceive and remember information. Saracho (1984) also sees it as the individual variation methods of perceiving, remembering and general processes. Hence, it can rightly be argued that cognitive style is associated with the way information is being processed. As a result, cognitive style is necessary in the teaching and learning of Social Studies. This is important when we take into consideration the information flow in the teaching and learning and evaluation that are involved. Thus, Isyaku (2018) asserted that students are evaluated in the way they perceive, manipulate, process and present information to the evaluator i.e. the teacher. Based on this, the students cognitive style determines to a very large extent their performance.

From researches on cognitive style and student's academic achievements, it has been observed that there exists a relationship between the two variables. Efedu (2017) studies the relationship between achievement in Music and Cognitive Style. The finding was in agreement with the findings of Ughamadu (1990) and Umeoduagu (1995) who in their experimental studies established no significant effect of cognitive style on student's achievement in Chemistry and Integrated Science respectively.

Gender according to Carey (2019) refers to the social attributes and opportunity associated with being male and female and the relationships between women and those of men. In his view, these attributes, opportunities and relationships are socially constructed and are learned through socialization processes. He added that gender determines what is expected, allowed and valued in a woman or a man in a given context.

There are available literature which seems to confirm the fact that gender is an important variable in determining students achievement in schools. Efedu (2017) investigated on gender and cognitive style as correlates of student's performance in Music. The research presented a comparison between sex (boys and girls) in an attempt to determine their influence in Music achievement. The finding revealed the means of boys and girls in Music. Girls were found to be better than boys in music.

This finding aligns with that of Nketia (2012) that Music has been traditionally viewed as more of women's interest and occupation. The result of which is that one might expect that women would score higher marks than men in test ability or achievement in Music as a subject.

Umeoduagu (1995) observed that there seems to be conflicting reports on the main and interactive effect of gender on student's achievement in science. According to him, some are of the view that the gender differences in science achievement may be attributed to genetic factor. Hence, Gray (2019) stated that the consistency of gender differences in environments provide evidence for the biological rather than environmental factors in determining science achievement.

This investigation therefore is informed by the fact that there are different factors that clearly determine effective learning of social studies. These factors invariably determine the academic achievement of students. Two of these factors namely the gender and cognitive style have been identified in this study for investigation and will enable the researcher find the relationship between these variable's on students academic performance in Social Studies.

Research Questions

This is designed to answer the following questions.

1. To what extent does students cognitive style determine their academic achievement in Social Studies?
2. Does gender have any impact on student^ academic achievements in Social Studies?

Hypothesis of Study

For the purpose of this study, two hypotheses were formulated for testing.

1. There is no significant relationship between Students' Cognitive Style and academic achievement of students in Social Studies.
2. There is no significant relationship between gender and academic achievement of students in Social Studies.

Purpose of the Study

The purpose of the study is to find out the extent to which cognitive style and gender can determine academic achievement in social studies. As a result the research has the following objectives.

1. To find out whether there is significant relationship between cognitive style and academic achievement in Social Studies.

2. To find out the extent to which gender can affect the academic achievement in Social Studies.

Methods and Procedure

The design of this study is ex-post facto research design as the research investigates the extent to which cognitive style and gender of two dimensions analytic and global as well as male and female dimension respectively can predict students academic achievement in Social Studies in Junior Secondary Schools.

Population of Study

There are thirty-eight Junior Secondary Schools in Ika South and Ika North East Local Government Area of Delta State at the time of this study. The population of the study was limited to ten Junior Secondary Schools of both Local Government Areas.

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Sample of Study

A total of three hundred and two (302) Junior Secondary (JS III) students were selected for the study Ten Junior Secondary School (JSS) in Ika South and Ika North East Local Government Areas were used. The Schools were selected on the basis of urban and rural digression. As a result five urban and five rural schools respectively were selected.

Instrument For Data Collection

In this study, two instruments will be used for data collection, namely:

1. Cognitive style test (CST)
2. Achievement Test in Social Studies (ATSS).

CST is a version of the Sigel (1963) and modified and validated in Nigeria by Onyejiaku (2020). The instrument is used to elicit cognitive response from students to ascertain their cognitive style dimensions for effective adaptation and utilization. Reliability estimates using the Pearson product moment correlation coefficient of $r = 0.62$ ($p < .001$) to $r = 0.76$ ($p < .001$) were obtained.

Achievement Test in Social Studies (ATSS)

Achievement Test in Social Studies in the 2007 JSS III Centrally Set examination by the Ministry of Education in Delta State. The examination was set by a team of Social Studies Scholars and examiners in 2006 based on the approved Social Studies curriculum for Junior Secondary School III.

Statistical Technique for Data Analysis

The data generated on three hundred and two respondents i.e. 151 males and 151 females will be analyzed using the Pearson moment correlation to establish variables and achievement at 0.05 level of significance.

Presentation of Result

Research Question One

To what extent can student cognitive style significantly predict their academic achievement in Social Studies.

Table 4.2

Pearson Product Moment Correlation between Style and the academic achievement of students in Social Studies.

Variables	Mean	S.D	df	Observed	Critical
			rvalue	rvalue	rvalue
Cognitive Style	1.60	30	300	143*	113
Academic Achievement in social studies	13.17				

*p<05

Table 4.2 shows the mean for cognitive style is 1.60 and that of students' Achievement in Social Studies are 13.17. The observed r-value between cognitive style and students Achievement in Social Studies is. 143 and the critical r-value is. 113. Hence there is positive relationship between cognitive style and their Achievement in Social Studies.

Research Question Two

Is there any significant relationship between gender and student's academic achievement in Social Studies?

Table 4.3

Pearson Product Moment Correlation between gender and student's

Variables	Mean	S.D	df	Observed	Critical
			rvalue	rvalue	rvalue
Gender	1.60	49	300	052	113
Academic Achievement					

in social studies	13.17	6.19
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*P<05

In order to answer Research Question three, the answer is presented in Tables 4.3. The Mean for gender is 052 and that of student's achievement in social studies is 13.17. The observed r-value between gender and student achievement in social studies is 137 and the critical r-value is 113. Hence there is no significant positive relationship between social-economic status and their academic achievement in social studies.

Discussion of Findings

The result from the testing of hypothesis revealed that there is a significant relationship between cognitive style test and student academic achievement in social studies. This implies that the student way of perception influence the way they attend to social studies test. The result is in line with the finding of Crophey *et. al* (2019), Hudson (2013), Goodenough (2016) and Bell-gain (2003) which indicated that cognitive style has a significant and profound influence on how individuals learn. The result also supports the finding of Akiakwo (1981) which showed that cognitive styles influences students performance on Chemistry process achievement with the analytic student performing better than the global students. However, the result is in contrast with that of Efed (2017) which revealed that there is no significant relationship between the student's way of perception and how they attend to music test.

From the result of the second hypothesis, there is no significant relationship between the independent variable (gender) and the academic achievement in Social Studies (dependent variable). This influence shows that students gender will not significantly determine their academic achievement in Social Studies. This is because both sexes who perceives analytically had better scores in the achievement in Social Studies than those that perceived globally. Hence the null hypothesis was retained. This finding is in contrast with that of Efed (2017) which showed that there is gender factor or gender effects on student performance in Music. Her study further revealed that girls performance were better than that of the boys in Music.

Conclusion

Following the findings above, the investigation came up with these conclusions:

1. Cognitive style test show relationship with student academic achievement in social studies as students with analytic styles show correlation with student performance in social studies.

2. Gender (sex) does not significantly related to academic achievement in Social studies.

Recommendations

Based on the finding, conclusion and the educational implications of this study, the following recommendations are made for the enhancement of the student performance in Social Studies at the junior secondary schools

1. Cognitive style differences and the students ability to perception and processing of information tends to favour or hamper achievement in Social Studies. The student cognitive styles should be highly considered.

2. The teacher should adopt teaching methods that would at average suite these different learning styles. Most teachers should equally be informed of the concept of cognitive Style student mode or way of perceiving and processing information which positively or negatively tend to predict or influence performance in social studies.

3. Irrespective of the dimensions that are categorized, teachers in social studies should be encouraged to carry out researches on how to improve class room teaching and learning process.

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